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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/618,259

07/11/2003

Stephen G. Evangelides JR.

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3227

27774

7590

12/17/2004

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EXAMINER

BELLO, AGUSTIN

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/618,259

Applicant(s)

EVANGELIDES ET AL.

Examiner

Agustin Bello

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/22/03, 5/6/04.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Harasawa (U.S. Patent No. 6,807,370).

Regarding claims 1, 9, 10, 17, and 19, Harasawa teaches a method of using optical time-domain reflectometry (OTDR) with a bi-directional optical transmission system that includes a plurality of terminals interconnected by first and second unidirectional optical transmission paths having at least one repeater therein, said method comprising the steps of: transmitting a probe signal (e.g. "PROBING LIGHT PULSE") from a first terminal (reference numeral 20 in Figure 1) through the repeater (reference numeral 10 in Figure 1) over the first optical transmission path; receiving over the first optical transmission path a returned OTDR signal (e.g. "RAYLEIGH BACKSCATTER" in Figure 1) in which status information concerning the first optical transmission path is embodied; transforming the returned OTDR signal to a digitized electrical signal (reference numeral 105a in Figure 2); transforming the digital electrical signal to an optical data signal (reference numeral 103b in Figure 2); and transmitting the optical data signal over the second optical transmission path (reference letter P3 in Figure 2) to the first

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terminal (reference numeral 20 in Figure 1) for extracting the status information embodied therein.

Regarding claim 2, Harasawa teaches that the steps of transforming the returned OTDR signal, transforming the digitized electrical signal, and transmitting the optical data signal over the second optical transmission path are performed in said at least one repeater (as seen in Figure 2).

Regarding claim 3, Harasawa teaches that said repeater includes a rare-earth doped optical amplifier (reference numeral 106a in Figure 2) through which the probe signal is transmitted.

Regarding claim 4, Harasawa teaches that the step of receiving the returned OTDR signal is performed at an output of the rare-earth doped optical amplifier (reference numeral 105a in Figure 2).

Regarding claim 5, Harasawa teaches receiving a portion of the probe signal; and ' initiating the step of transforming the returned OTDR signal to a digitized electrical signal upon receipt of the probe signal (as seen in Figure 2 and apparent from reference numeral 102 in Figure 2).

Regarding claim 6, Harasawa teaches processing the optical data signal to extract the status information (reference numeral 22a, 22b in Figure 1).

Regarding claim 7, Harasawa teaches that the status information includes discontinuities in the first optical transmission path (e.g. "FAULT" in Figure 1) that give rise to optical attenuation.

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Regarding claim 8, Harasawa teaches that the optical data signal is transmitted at a channel wavelength at which the optical transmission system operates (inherent).

Regarding claims 11, 18, and 20, Harasawa teaches that the optical tap (e.g. at input to reference numeral 105a in Figure 2) comprises at least one coupler for receiving a portion of the OTDR probe signal as well as the returned OTDR signal.

Regarding claims 12 and 21, Harasawa teaches that at least one detector (reference numeral 105a in Figure 2) is arranged to also convert the OTDR probe signal to an electrical probe signal and a returned electrical signal.

Regarding claims 13 and 22, Harasawa teaches a bi-directional optical tap (inherent in ability to accept backscatter).

Regarding claims 14, 15, and 23, Harasawa teaches that first (reference numeral 105A in Figure 2) and second detectors (reference numeral 105b in Figure 2).

Regarding claim 16 and 24, Harasawa teaches a gate (reference numeral 102 in Figure 2).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Agustin Bello
Examiner
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A handwritten signature in black ink, appearing to read "A. Bello". The signature is stylized with a large, looped "A" and a cursive "Bello".

AB